Appendix XII
Material Properties of the Steel-Girder Bridge

Steel in the Plate Girders
E = 29,000 ksi
G = 11,000 ksi
Poisson’s Ratio = 0.32
Density = 0.284 lb/in$^3$
$f_y = 50$ ksi

Steel not in the Plate Girders
E = 29,000 ksi
G = 11,000 ksi
Poisson’s Ratio = 0.32
Density = 0.284 lb/in$^3$
$f_y = 36$ ksi

Concrete in the superstructure
$f_c' = 4000$ psi
E = 3605 ksi
Poisson’s Ratio = 0.15

\[ G = \frac{E}{2(1+\nu)} = 1567 \text{ ksi} \]
Density = 150 lb/ft$^3$

Concrete not in the Superstructure
$f_c' = 3000$ psi
E = 3122 ksi
Poisson’s Ratio = 0.15
\[ G = \frac{E}{2(1+\nu)} = 1357 \text{ ksi} \]

Density = 150 lb/ft\(^3\)

**Rigid Link**

E = 29,000 ksi

G = 11,000 ksi

Poisson’s Ratio = 0.32

Density = 0